

Serial No.: 09/747,273

Filing Date: December 22, 2000

Attorney Docket No. 100.047USR4

Title: CELLULAR COMMUNICATIONS SYSTEM WITH SECTORIZATION

REMARKS*Status of Claims*

Claims 10, 14, 18,-20, and 23 have been amended.

Claims 24-58 have been canceled without prejudice.

Claims 59-105 have been added.

Consequently, claims 1-23 and 59-105 are now pending in the present application.

Support for the claim amendments and new claims is located, for example, in FIGS. 2-4 and 8 and at column 9, line 65 – column 11, line 48 of the present application. It is respectfully submitted that these claim amendments and new claims do not add new matter.

Original Claims 1-9

The Office Action indicates that claims 10-58 were pending as of the mailing date of that paper. As a result, claims 1-9 of the present application have not been examined.

Claims 1-9 are the original issued claims from United States Patent No. 5,852,651, which is the patent on which the present reissue application is based. A typographical error in the Supplemental Preliminary Amendment mailed on August 22, 2001 indicated that claims 10-58 (instead of claims 1-58) were pending at the time the Supplemental Preliminary Amendment was filed. However, claims 1-9 have not been canceled. Accordingly, Applicants respectfully request examination of claims 1-9.

Summary of Examiner Interview

The undersigned and Mr. Phil Caspers, Registration No. 33,227, conducted an in-person examiner interview on June 25, 2004 at the request of the Applicants.

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Applicants' representatives indicated that claims 24-58 would be canceled from the present application and prosecuted in a continuation application claiming priority to the present application. Also, Applicants' representatives indicated that a Supplemental Information Disclosure Statement was going to be filed with this Amendment.

A slide presentation was shown consisting of Figures 1A, 1B, and 1C of the present application, Figure 2 of United States Patent No. 5,802,173 to Hamilton-Piercy, et al., and Figure 4 of United States Patent No. 5,299,198 to Kay, et al. Applicants' representatives argued that Hamilton-Piercy relates to analog modulating an RF signal onto an optical fiber and that Kay relates to a TDMA scheme. Applicants' representatives explained that FIG. 3 of the present application illustrates how modulated RF signals output by each of the transmitters are combined and how the combined RF signal is digitized and digitally modulated onto an optical fiber for transmission to a remote unit.

The independent claims contained in claims 10-23 and four proposed claims A, B, C, and D were discussed. The proposed claims A, B, C, and D discussed in the interview are new claims 59, 77, 86, and 99, respectively, submitted herewith. The amendments to claims 18, 19, 20, and 23 submitted herewith were also discussed in general.

The Examiner suggested amendments to the independent claims that distinguish the "remote unit" recited in claim 10 from mobile units and amendments that indicate that the digitized representation of the RF signal is transmitted to the remote unit by digitally modulating the digitized representation of the RF signal onto an optical carrier. Applicants' Representatives indicated that they would submit amendments and arguments consistent with the discussions.

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Rejections under 35 U.S.C. § 103

Claims 10-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kay et al. (United States Patent No. 5,299,198) (referred to hereinafter as “Kay”) in view of Hamilton-Piercy et al. (United States Patent No. 5,802,173).

Claim 10 of the present application recites a method of transmitting an RF signal between a base station and at least one remote unit. In order to expedite prosecution, claim 10 has been amended to indicate that the at least one remote unit wirelessly communicates with at least one wireless unit. The method of claim 10 comprises “generating a digitized representation of the RF signal at the base station, wherein the RF signal is a combined analog signal representing a plurality of outbound wireless transmissions for a set of channels” and “transmitting the digitized representation to the remote unit.”

Neither Kay, nor Hamilton-Piercy, teach or suggest “generating a digitized representation of *the RF signal* at the base station, wherein the RF signal is a combined analog signal representing a plurality of outbound wireless transmissions for a set of channels” or “transmitting the digitized representation to the remote unit” as recited in claim 10 of the present application. Kay relates to a technique for increasing the amount of calls that are modulated onto a *single* RF channel using an improved time division multiplexing access (TDMA) protocol in which calls are dynamically assigned to time slots on a speech burst basis. *See, for example*, Kay, Abstract (“A mobile telephone system multiplexes plural voice traffic channels on a single carrier using a TDMA protocol. The capacity of the mobile telephone system is increased by assigning voice traffic capacity, not on a conversation basis, but on a speech spurt basis.”). The relevant portions of Kay cited in the Office Action merely indicate that digitized call data (in addition to analog call data) can be assigned to the various time slots using the TDMA scheme of Kay and that a TDMA frame for each RF channel is modulated onto a respective RF carrier using QPSK modulation. Kay is wholly silent as to generating a digitized representation of *any RF signal* at the base station, let alone an RF signal that

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“is a combined analog signal representing a plurality of outbound wireless transmissions for a set of channels” as recited in claim 10 of the present application.

Hamilton-Piercy relates to using a hybrid fiber-coax (HFC) network to transport RF signals in a microcell system. However, Hamilton-Piercy is silent as to digitizing any RF signals for transport. Hamilton-Piercy, instead, relates to transporting *analog* RF signals. *See, for example*, Hamilton-Piercy, column 13, lines 24-41. Given this, it is respectfully submitted that one of ordinary skill in the art would not be motivated to modify the Kay system to generate “a digitized representation of *the RF signal* at the base station” nor to transmit “the digitized representation to the remote unit” as recited in claim 10 of the present application.

As noted above, in order to expedite prosecution, claim 10 has been amended to indicate that the at least one remote unit wirelessly communicates with at least one wireless unit. This more clearly distinguishes “transmitting of the digitized representation to the remote unit” from any wireless communications between the remote unit and at least one wireless unit.

Accordingly, Applicants respectfully request that this rejection of claim 10 be withdrawn.

Claims 11 through 13 depend from claim 10. Therefore, Applicants respectfully request that the rejection of these claims be withdrawn for at least those reasons set forth above with respect to claim 10.

Applicants respectfully request that the rejection of claims 14 through 23 be withdrawn for at least the reasons set forth above with respect to claim 10.

Claims 24-58 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hamilton-Piercy in view of Kay.

Claims 24 through 58 have cancelled without prejudice.

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If the Examiner has any questions or concerns regarding this application, please contact the undersigned at (612) 332-4720.

Respectfully submitted,

Date:

9/30/2004

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